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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,149	04/14/2004	Yao-Ching Su	250122-1480	6377
24504	7590	02/17/2006	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP			WON, BUMSUK	
100 GALLERIA PARKWAY, NW			ART UNIT	
STE 1750			PAPER NUMBER	
ATLANTA, GA 30339-5948			2879	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,149

Applicant(s)

SU ET AL.

Examiner

Bumsuk Won

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: Plasma display panel having extended discharge space.

Claim Objections

Claims 7, 14 and 19 are objected to because of the following informalities:

Regarding claim 7, the limitation "a plurality a connecting electrodes" should be "plurality of connecting electrodes". Appropriate correction is required.

Regarding claim 14, the limitation "a plurality a connecting electrodes" should be "plurality of connecting electrodes". Appropriate correction is required.

Regarding claim 19, the limitations "axis" in line 6 and 7 are conventionally defined as "an unlimited line, half-line, or line segment serving to orient a space or a geometric object, especially a line about which the object is symmetric" or "a reference line from which distances or angles are measured in a coordinate system" by dictionary.com. It is suggested to replace the phrase "the first axis is longer than the

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second axis" in lines 8-9 with "the distance of the first axis is longer than the distance of the second axis" or "the length of the first axis is longer than the length of the second axis". Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the first direction" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. For examining purpose, a limitation "a first direction" will be assumed in place of "the first direction". Claims ~~1-10~~^{2-9 JW 2/16/06} are rejected due to their claim dependency.

Claim 10 recites the limitation "the bar shaped electrode" in line 5. There is insufficient antecedent basis for this limitation in the claim. For examining purpose, it will be assumed that claim 10 is depended on claim 9 which defines the limitation "the bar shaped electrodes".

Claim 11 recites the limitation "the first direction" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. For examining purpose, a limitation "a first direction" will be assumed in place of "the first direction". Claims 12-15 are rejected due to their claim dependency.

Claim 16 recites the limitation "the first direction" in lines 9-10. There is insufficient antecedent basis for this limitation in the claim. For examining purpose, a

limitation "a first direction" will be assumed in place of "the first direction". Claims 17-18 are rejected due to their claim dependency.

Claim 19 recites the limitation "near cross discharge spaces" in line 15. There is insufficient antecedent basis for this limitation in the claim. For examining purpose, a limitation "a plurality of near cross discharge spaces" will be assumed in place of "a plurality of discharge spaces". Claim 20 is rejected due to its claim dependency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano (JP 2001-345054).

Regarding claim 1, Sano discloses a structure of a plasma display panel (figures 1 and 9), comprising: a rear substrate (21); a plurality of ribs (29) formed on the rear substrate to define a plurality of non-equilateral hexagonal discharge spaces (27); a front substrate (11) opposite the rear substrate; and a plurality of bus electrodes (42) formed on the front substrate, each extending substantially in a first direction (horizontal

direction of the figure) and containing a plurality of extending electrodes (41) protruding to corresponding non-equilateral hexagonal discharge spaces (27).

Regarding claim 2, Sano discloses the non-equilateral hexagonal discharge spaces are symmetrical (figure 9, 27).

Regarding claim 3, Sano discloses each non-equilateral hexagonal space (figure 9, 27) is defined by two vertical sides (vertical line of 27) each of a first length and beveled sides (slanted lines of 27) each of a second length, wherein the first length is less than $1/2$ of the second length (figure 9, 27).

Regarding claim 4, Sano discloses the first length is less than $1/4$ of the second length (figure 9, 27).

Regarding claim 5, Sano discloses the bus electrodes (figures 1 and 7, 42) are arranged in a line shape and parallel with each other.

Regarding claim 6, Sano discloses the bus electrodes (figure 9, 42) are zigzag shaped and extend along the ribs.

Regarding claim 7, Sano discloses a plurality of connecting electrodes (figure 9, neck portion between 41 and 42), each connects the extending electrodes of corresponding bus electrodes.

Regarding claim 8, Sano discloses the extending electrodes (figure 9, 41) are near triangular.

Regarding claim 9, Sano discloses the bus electrodes (figure 9, 42) and the extending electrodes (41) form bar shaped electrodes (41 and 42).

Regarding claim 10, Sano discloses the bus electrodes (figure 9, 42) of the bar shaped electrodes (41 and 42) do not contact adjacent extending electrodes at angled points (the neck portion which is the contact portion is not at the angled points).

Regarding claim 11, Sano discloses a structure of a plasma display panel (figures 1 and 12), comprising: a rear substrate (21); a plurality of ribs (29) formed on the rear substrate to define a plurality of diamond discharge spaces (27); a front substrate (11) opposite the rear substrate; and a plurality of bus electrodes (42) formed on the front substrate, each extending substantially in a first direction (horizontal direction of the figure) and containing a plurality of extending electrodes (41) protruding to corresponding diamond discharge spaces (27).

Regarding claim 12, Sano discloses the bus electrodes (figures 1 and 12, 42) are arranged in a line shape and parallel with each other.

Regarding claim 13, Sano discloses the bus electrodes (figure 9, 42) are zigzag shaped and extend along the ribs.

Regarding claim 14, Sano discloses a plurality of connecting electrodes (figure 1, neck portion between 41 and 42), each connects the extending electrodes of corresponding bus electrodes.

Regarding claim 15, Sano discloses the extending electrodes (figure 12, 41) are near triangular.

Allowable Subject Matter

Claims 16-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, taking into account the assumption made in the examination of the claims.

Regarding claim 16, the prior art of record neither shows nor suggest a plurality of ribs formed on the rear substrate to define a plurality of near cross discharge spaces, along with the rest of the limitations of the claim. Claims 17 and 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, taking into account the assumption made in the examination of the claims due to their claim dependency.

Regarding claim 19, the prior art of record neither shows nor suggest a plurality of ribs formed on the rear substrate to define a plurality of near cross discharge spaces, along with the rest of the limitations of the claim. Claim 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action, taking into account the assumption made in the examination of the claims due to their claim dependency.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-

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2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bumsuk Won
Patent Examiner



JOSEPH WILLIAMS
PRIMARY EXAMINER